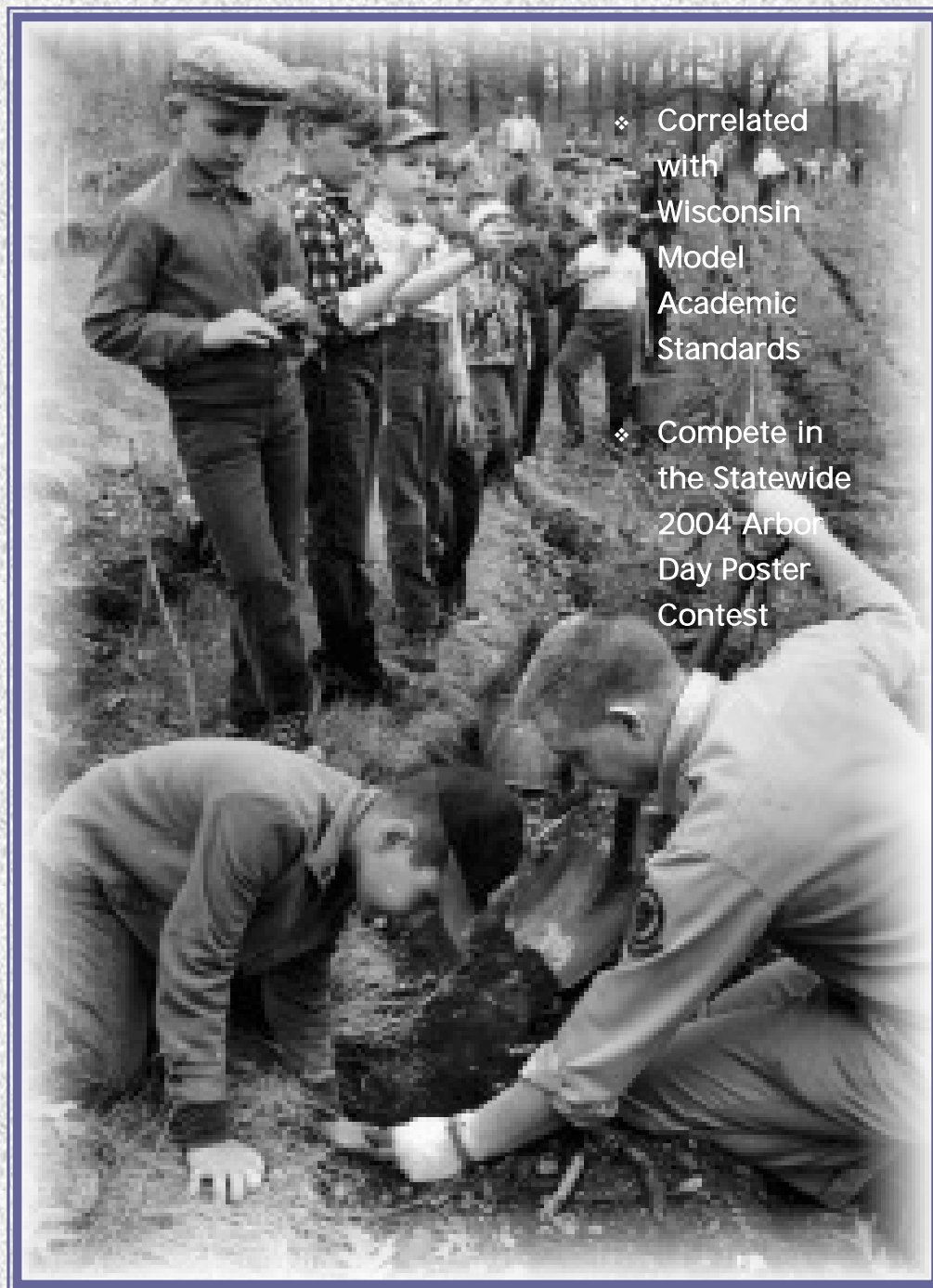


Rebuilding Our Forests:

One Hundred Years of Forestry in Wisconsin



- ❖ Correlated with Wisconsin Model Academic Standards

- ❖ Compete in the Statewide 2004 Arbor Day Poster Contest

2004 Wisconsin DNR-Division of Forestry
Arbor Day Poster Contest

Activity Guide

Welcome

2004 Wisconsin DNR-Division of Forestry Arbor Day Poster Contest

Sponsored by:



Wisconsin Nursery Association



Rebuilding Our Forests: One Hundred Years of Forestry in Wisconsin

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Activity Guide

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Supplemental Materials

To download student pages and other materials which supplement the lessons in this guide, visit the Wisconsin DNR-Division of Forestry website at: **www.dnr.state.wi.us/org/land/forestry/**
Look for *Arbor Day Poster Contest* in the drop-down topic list on this page.



You will find:

- ❖ Student pages and other materials needed for the lessons in this guide
- ❖ Arbor Day Poster Contest Participation Certificate
- ❖ Arbor Day Poster Contest School Winner Certificate
- ❖ Evaluation of the 2004 Arbor Day Poster Contest

www.dnr.state.wi.us/org/land/forestry/

Activity Guide

Overview

Step 1

Uncover Our Forests' Past

Main Activity:

I Saw It on the 6 O'Clock News



Nutshell: In this lesson, students participate in a live newscast from the past. Using a script, they conduct interviews or are interviewed for a newscast that the class will watch. After the newscast, the class organizes the news events into a timeline.

Extension 1:

Urban Trees on TV



Nutshell: In this lesson, the class learns the values of urban trees as the teacher pulls symbolic props from a bag. Students work together to write and conduct an opinion poll to find out how people feel about urban trees. Students make graphs to describe the results of the poll and create commercials to promote the benefits of urban trees.

Extension 2:

Foresters Make Headlines



Nutshell: In this lesson, students become newspaper reporters and write stories about an accomplishment of a forester from the past as if it were late-breaking news. The teacher "publishes" the stories in a "newspaper" and distributes them to the class. The class then expands the timeline they created in the main lesson by adding their stories' headlines to it.

Step 2

Create a Poster

Rebuilding Our Forests:

One Hundred Years of
Forestry in Wisconsin



Nutshell: In this lesson, students become "news photographers." Their job is to create a snapshot that depicts an aspect of the history of Wisconsin's forests. Schools in each county will be assigned a different time period to draw.

Step 3

Celebrate Arbor Day

Making History



Nutshell: In this lesson, students plan and participate in an Arbor Day celebration and learn how to correctly choose and plant a tree.

<p>Materials: <i>For the class:</i></p> <ul style="list-style-type: none"> • Chalk/marker board • Table • Chair • Copy of Segment Title Cards (available online) <p><i>For each student:</i></p> <ul style="list-style-type: none"> • Copy of Student Page (available online) • Copy of Student Script (available online) <p><i>For the teacher:</i></p> <ul style="list-style-type: none"> • Construction paper • 50 feet of rope or string • Clothing, hats, props (optional) • Copy of Teacher Script (available online) 	<p>Lesson Time: 90 minutes</p> <p><i>For more information see page 6 '</i></p>
<p>Materials: <i>For the class:</i></p> <ul style="list-style-type: none"> • Sunglasses • Dollar bill • Price tag • Birdhouse • Sponge • Granola bar or other snack food • Dust mask • Umbrella • Artwork <p><i>For each student:</i></p> <ul style="list-style-type: none"> • Bag to hold the props listed above • Chalkboard or dry erase board • Props and dress-up clothes (optional) <p><i>For each student:</i></p> <ul style="list-style-type: none"> • Copy of Student Page (available online) • Pencil 	<p>Lesson Time: 90 minutes</p> <p><i>For more information see page 11 '</i></p>
<p>Materials: <i>For the class:</i></p> <ul style="list-style-type: none"> • The timeline display from the main lesson <p><i>For each student:</i></p> <ul style="list-style-type: none"> • Access to the Internet • Copy of Student Page (available online) • Paper and pencil • Markers or colored pencils 	<p>Lesson Time: 70 minutes minimum</p> <p><i>For more information see page 14 '</i></p>
<p>Materials: <i>For each student:</i></p> <ul style="list-style-type: none"> • Paper no smaller than 8½ X 11" and no larger than 14 X 18" • Markers, crayons, colored pencils, watercolor, ink, acrylic, or tempera paint 	<p>Lesson Time: 50 minutes minimum</p> <p><i>For more information see page 19 '</i></p>
<p>Materials: <i>For the class:</i></p> <ul style="list-style-type: none"> • Tree for planting • Shovel • Water 	<p>Lesson Time: Varies</p> <p><i>For more information see page 22 '</i></p>

Online materials can be found at: www.dnr.state.wi.us/org/land/forestry/

Step 1

Uncover Our Forests' Past

Main Lesson: I Saw It on the 6 O'Clock News

Nutshell

In this lesson, students participate in a live newscast from the past. Using a script, they conduct interviews or are interviewed for a newscast that the class will watch. After the newscast, the class organizes the news events into a timeline.

Background Information

As the first wave of settlers arrived in Wisconsin in the early 1800s, forests covered an estimated 63-86% of the state. As the number of settlers increased, the demand for resources likewise increased. By the end of the Civil War, logging became an important part of Wisconsin's economy. By 1893, Wisconsin had become the world leader in lumber production.

The growth of the logging industry did not come without costs to Wisconsin's forests. An 1898 study conducted by the federal government found that only 13 percent of the volume of red and white pine present in Wisconsin in 1850 still existed. Eight million acres of the estimated 17 million acres of original forest had been cut. Fire ran rampant across the landscape as logging slash (treetops, branches) dried and kindled fires. As a result, millions of acres of forest and thousands of human lives were lost to fire. As farmers worked to clear the remains of logging, they too started many fires that had large costs to remaining forests and human life.

The degradation of Wisconsin's forests did not go unnoticed. E.M. Griffith was hired in 1904 as the first Wisconsin State Forester. He worked to establish state-owned forest preserves, construct the first state tree nursery, and implement fire control strategies. Griffith ran into opposition from county governments, who contended that the loss of state properties from the tax roll hurt the counties. These folks took the state to court over the state ownership of land. In 1915, the Wisconsin Supreme Court declared the purchase of forested land by the state unconstitutional. As a result, forestry in Wisconsin came to a halt until 1924 when the citizens of Wisconsin amended the constitution through a referendum to allow the use of state funds for the acquisition, development, and conservation of forest resources.

By the 1920s, farmland in the north woods was being abandoned daily and left as tax delinquent. Counties were faced with the problem of what to do with this land. In 1928, Marinette County decided to replant their lands with trees and soon other counties followed suit, creating county forests. That year, the federal government started buying lands to replant as forests. In 1933, this land became part of one of two national forests created in Wisconsin that year.

Objectives

Upon completion of this lesson, students will be able to:

- Define renewable resource.
- Describe how humans promoted regrowth and renewability of Wisconsin's forests.
- Discuss the key players involved in replanting Wisconsin's forests.
- Indicate how forest product needs were met while the forest regenerated.

Subject

Social Studies

Lesson/Activity Time

Total lesson time: 90 minutes

Time breakdown:

- Introduction - 10 minutes
- Activity 1 - 15 minutes
- Activity 2 - 5 minutes
- Activity 3 - 15 minutes
- Activity 4 - 40 minutes
- Conclusion - 5 minutes

Teaching Site

Classroom

Materials

For each student:

- One section from the I Saw It on the 6 O'Clock News Student Script *
- Copy of I Saw It on the 6 O'Clock News Student Page *

For the class:

- Chalk/marker board
- Table
- Chair
- Copy of Segment Title Cards *

For the teacher:

- 6 pieces of green construction paper
- 5 pieces of brown construction paper
- 3 pieces of yellow construction paper
- 50 feet of rope or string
- Copy of I Saw It on the 6 O'Clock News Teacher Script *
- Clothing, hats, props (optional)

* Available online

www.dnr.state.wi.us/org/land/forestry/

Nineteen twenty-nine was the beginning of the Great Depression. Timing could not have been better as it related to replanting all of these forests. Five days after his 1933 inauguration, Franklin Roosevelt met with the secretaries of Agriculture, Interior and War to outline his proposed conservation relief measure. The proposed Civilian Conservation Corps (CCC) would recruit 250,000 unemployed young men to work on federal and state owned land for "the prevention of forest fires, floods, and soil erosion; and plant, pest and disease control." In his message to Congress, Roosevelt declared that the CCC would "conserve our precious national resources" and "pay dividends to the present and future generations. More important," he added, "we can take a vast army of the unemployed out into healthful surroundings. We can eliminate, to some extent at least, the threat that enforced idleness brings to spiritual and moral stability." To work they went, 75,000 strong in Wisconsin. Seventy-five camps were built around the state to house the men. The program lasted until 1942. During this nine-year period, the CCC contributed much to the forests of Wisconsin, including planting trees; helping to protect them from fire, disease, and insects; and building campgrounds and parks.

Many of the forests we have today didn't reestablish themselves. After the cutover, countless human and monetary resources were utilized to return our forests to their splendor. Our public forests are managed by a variety of agencies, including the Wisconsin Department of Natural Resources (WDNR) Division of Forestry, the US Forest Service, County Foresters, and private consulting foresters. Not all forests are public, though. Today, 57% of our forests are owned by private, non-industrial landowners and another 11% by the forest products industry. The WDNR Division of Forestry provides assistance to private landowners with the management of their properties. Together, the effort continues to sustain our forests for future generations.

Procedure

Day 1

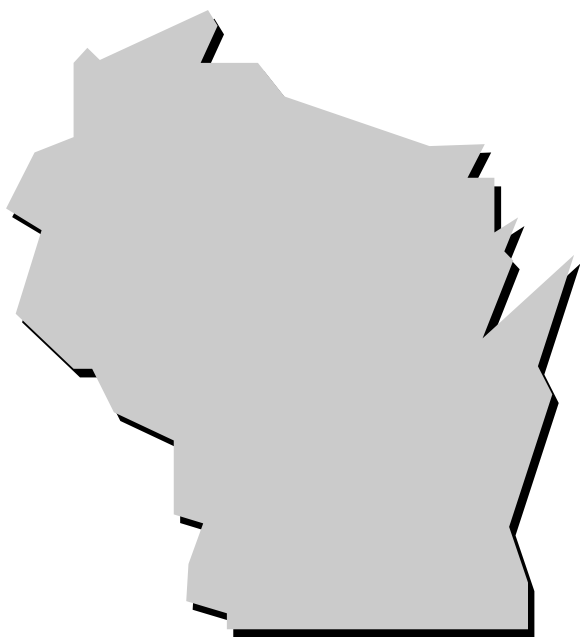
Introduction

1. Begin by reviewing with your students how Wisconsin's forests have changed over time. Ask 10 volunteers to come to the front of the room. Ask nine of them to stand inside the state of Wisconsin that you have laid out on the floor. Ask the tenth person to be the recorder of information on the board.

2. Tell the class that these students represent all the land cover of Wisconsin. In other words, what was growing on the land in 1845. Give six students the pine trees that you cut from construction paper. Give the other three the yellow sheets with "Prairie" written on the side facing the class. The students with the prairie signs should stand in the southern 1/3 of Wisconsin. Tell students that as the first European settlers arrived in Wisconsin 2/3 of the state was covered with forests. The remainder was covered with grasslands called prairies.

Preparation

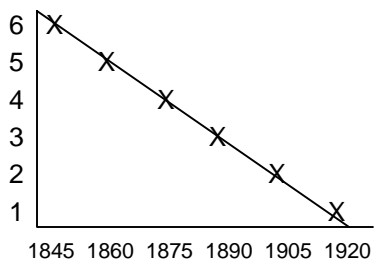
- Cut 6 pine trees approximately 8" tall from green construction paper.
- Cut 5 tree stumps approximately 4" tall from brown construction paper.
- Label 3 sheets of yellow paper with the word "Prairie" on one side and "Farms" on the other.
- Outline the shape of Wisconsin on the floor in the front of the classroom with rope or string. The state should be about 6-8 feet from north to south.
- Make two copies of the I Saw It on the 6 O'Clock News Student Script. Cut apart each interview segment. There are 22 student parts in the newscast script. Give each pair of students a copy of the same segment to rehearse. Make one copy of the I Saw It on the 6 O'Clock News Teacher Script for yourself.
- Write the order of the interviews on the board. (1. Bud Basswood and Tim Cruise, 2. Blossom Bloomer and Ole Hasbeen, 3. Clay Crop and Hans Rockpicker, 4. Sally Controversy and Forest Proponent, 5. Nat Forest and John Treebark, 6. Mildred Hardtimes and Kenny Nowork, 7. Sonya Sawyer and Buster Foreman, 8. Twiggy Spud and Steve Greenthumb, 9. Julie Yesterday and Donna Roadalong, 10. Susie Spark and Smokey Bear, 11. Ellie Elm and Citizen Sad, 12. Tree A. Ward and Val N. Teer, 13. Tony Oak and Cindy Info)
- Cut apart the Segment Title Cards
- List the following years on the board with a line behind them to record data: 1845, 1860, 1875, 1890, 1905, 1920.
- Draw a graph on the black board with the Y-axis labeled 1 to 6 (1, 2, 3, 4, 5, 6) and the X-axis labeled 1845 to 1920 in 15 year increments (1845, 1860, 1875, 1890, 1905, 1920).
- Set up a table with a chair to be used by the news anchor during that portion of the lesson.
- On a bulletin board or on the wall, make a timeline starting with 1848 and ending with 2004. Make sure there is room under the timeline for students to post their Segment Title Cards and their headlines from Extension 2.



3. Ask students what happened to Wisconsin's forests and prairies after settlers started to arrive. (The forests were logged, the prairies were plowed for farms, and both were removed from the landscape.) Tell them that the students standing in front of the room are about to show them how this changed the state. Ask a student to slowly count out loud by 5s, starting with the year 1845 and ending with 1920. Every 15 years, beginning with 1860, remove one of the 6 trees from the students and replace it with one of the tree stumps. Also turn over one of the prairie signs so that it reads "farms". (Note-all prairie signs will be turned over by 1890.) Each time you remove a tree, have the student recorder count the remaining trees on that date and record them on the board.

4. Have the students remain standing with their tree stumps, tree, and farm props. Invite several students up to the board to plot a line graph from your data. Once dots have been placed above all of the dates, connect them with a line. Tell the students that the graph represents what happened to the forested land cover in Wisconsin during this time period.

Sample Graph



5. Ask the students how the land cover in Wisconsin changed. (Forests were logged off for lumber. Prairies were plowed up and turned to farms.) Ask the students what happened to the land after it was logged. (People tried to farm it.) Was this good land for farming? (No, much of it was not.) Ask what happened to the land after farmers who moved off the land abandoned it. (The counties got the land because the farmer who owed the tax on the land couldn't pay it.)

6. Tell students that although this land wasn't good for farming, nature proved that it was good for growing something. Ask them what could grow on this land. (Trees, forests.) Ah, forests, you say. Forests are a renewable resource. Lead a discussion about renewable resources.

- ❖ What does renew mean? (To make something new again, to restore something as it was.)
- ❖ What is a resource? (Something humans use for food, water, product, etc.)
- ❖ So why is a forest a renewable resource? (Because it can regrow naturally or with the help of humans and continue to provide for us.)
- ❖ What are some examples of other renewable resources? (Water, soil, animals, plants.)
- ❖ Some resources are referred to as nonrenewable resources. What would that mean? (The resource doesn't replenish itself.)
- ❖ What are some examples of nonrenewable resources? (Oil, metals like copper and iron.)

Tell students that during the early 1900s many people and the government worked very hard to renew the forests of Wisconsin. Ask a student to again count slowly by 5s starting with 1920. Each time student advances by 5 years, replace a tree stump with a tree. By 1950, you will have all of the forests replanted. Tell your students that during this lesson, they will explore some of the events that happened during this time period that contributed to the renewing of our forests. Your students can now sit back down in their seats.

Activity 1

1. Ask your class how many of them have ever watched the news. Tell them that today they are going to do their own newscast. Some students will be news reporters and the rest will be people with a story that is on the news. This is a special newscast because it isn't about the happenings during that day like regular newscasts. Instead, these reporters are time travelers. They can go back in time and report on things in history, while they are happening.

2. Assign all students a role of either a reporter or the individuals the reporters will interview. Point out that the order each group will speak in is listed on the board. If you have more students than roles, have remaining students work together to develop a commercial that they can do during the newscast. The commercial should be about Wisconsin's forests. Give each reporter and associated interview candidate a portion of the I Saw It on the 6 O'Clock News Student Scripts to read and practice. Ask them to think how these people might act and have them take on the role of the people in their interviews. If you have clothing, hats, and props, let students pick items to further portray their characters. Give students 10 minutes to prepare.

Activity 2

1. Hand out a copy of I Saw It on the 6 O'Clock News Student Page to each student. Explain that they have one additional role during this activity. They are also historians. Their job is to write down the important information during the newscast for each of the news segments. Tell them that you will also play a role. You will be the news anchor, Maple Woods. You will introduce and conclude each segment. The information that they record will be repeated several times during that segment. They need to listen and fill in the blanks on their worksheet as they watch the newscast. Go over the student page with the class and discuss the types of information to include. (Whom each person interviewed, the year of the interview, and what the interview was about.)



Vocabulary

Abandoned - To leave behind or give up.

Civilian Conservation Corps - A program during the Depression that provided jobs for men out of work and that worked on projects to improve our forests.

Great Depression - A period in history when the economy was bad and many people were without jobs.

Nursery - A place where trees are grown from seeds so that they can be planted later in another location.

Renewable Resource - A resource that has the ability to regenerate, grow back, or produce more.

Slash - Branches, leaves, and twigs left after cutting down a tree.

Activity 3

1. Start the newscast. As the teacher, you will serve as the news anchor. Read from your news script like a real anchor, introduce, and conclude each segment. Have students come up to the front of the room for their interview segments. Students can use the script for their segments too. Keep the show moving at a consistent pace.

Activity 4

Upon concluding the news show, tell students that you want them to create a time line. Their job is to help you put the events in the order they happened and with the approximate dates. If they listened to the segments and took notes, they should be able to complete this assignment. Ask for volunteers to come up to the front. Give the volunteer one of the Segment Title Cards and have them place the card on the timeline where they think it belongs. As they are placed, ask the class if they believe the cards are in the right location. Continue having volunteers come up and place the cards on the timeline until all cards have been placed.

Conclusion

Review with students the meaning of the term renewable resource. (A resource that renews itself.) Ask what happens if humans utilize a resource faster than it can renew itself. (The resource will get used up and not be able to renew itself.) Tell the students that this is what happened to our forests. We cut them down faster than they could regenerate. Review with the students the main events on the timeline, pointing them out on the timeline. Ask the students what they feel were the key things needed to allow the reestablishment of our forests. (Tree seedlings to plant, people to plant them, people to protect forests from fire, and money to pay for all of these efforts. They would have regenerated on their own, but it would have taken a very long time.) Ask them to speculate what would have happened had any of these resources not been available. (It would not have been possible for our forests to recover as soon as they did.) Remind the students that Wisconsin's forests helped to build the state and the growing nation by providing lumber. Ask them where they think the lumber came from that continued to build buildings in Wisconsin once we had cut down our forests. (We had to import our lumber from other states, primarily in the west.)

Assessment

Summative

Have your students develop a list of the resources that would be needed for planting a garden or landscaping at school. This should include such things as seeds, plants, trees, tools to plant, people to help, and money to buy the items needed.

References

Civilian Conservation Corps. www.cccalumni.org/index

Curtis, J. T. (1959). The Vegetation of Wisconsin. Madison, WI: The University of Wisconsin Press.

Finan, A. S. (Ed). (2000). Wisconsin's Forests at the Millennium: an Assessment. Madison, WI: Wisconsin Department of Natural Resources. PUB-FR-161 2000

Golden, R. et al. (2002). The Changing of the Land. Amherst Junction, WI: Central Wisconsin Environmental Station.

Smokey's Vault. www.smokeybear.com

Other Resources

Website

Wisconsin Historical Society.

www.wisconsinhistory.org

Under the kids link, students can find a timeline with Wisconsin history stories and pictures.



Step 1

Uncover Our Forests' Past

Extension 1: Urban Trees on TV

Nutshell

In this lesson, the class learns the values of urban trees as the teacher pulls symbolic props from a bag. Students work together to write and conduct an opinion poll to find out how people feel about urban trees. Students make graphs to describe the results of the poll and create commercials to promote the benefits of urban trees.

Background Information

What is an urban forest? According to the Wisconsin Department of Natural Resources (WDNR), it is “all of the trees and other vegetation in and around a town, village or city—the trees in your yard, along the street, in parks and cemeteries.” Shrubs, flowers, vines, ground covers, grass, and a variety of wild plants and animals also are part of the urban forest. The urban forest is, in fact, an ecosystem.

Although every part of the urban forest is valuable, this lesson will focus on the value of trees in the urban ecosystem. Trees provide many benefits to the rest of the community. Urban areas, which are typically covered in pavement, cement and buildings, often are several degrees warmer than the surrounding area. Trees planted along the street shade the concrete and help keep the entire neighborhood cool. Trees also help us save money on our heating and cooling bills. Trees planted to the east and west of a home shade the house from the path of the sun as it rises and sets. According to The National Arbor Day Foundation, this can cut cooling costs by 15-35%. Trees planted as a windbreak help prevent winter winds from drawing heat from our homes. This can lower heating bills 10-20%. In addition, trees planted around a home can increase its value up to 15% or more.

Trees provide habitat for urban wildlife. Many types of wildlife have adapted to our human built environment. Songbirds and other small animals are able to survive in urban environments thanks to trees. Trees provide homes and food for these animals.

Urban forests help prevent environmental problems. Did you know trees could help prevent a flood? Trees absorb water from the soil through the roots. The water travels up through the trunk to the leaves. During a process called transpiration, water exits the leaves as water vapor. By taking water from the soil and releasing it as water vapor, trees help prevent flooding. Trees also help prevent soil erosion. The branches and leaves of trees break the fall of raindrops. This gives the soil time to absorb the water. Otherwise the water could run off quickly, carrying the topsoil with it.

Trees also help us stay happy and healthy. Sometimes just being able to look at beautiful trees in our surroundings can

Objectives

Upon completion of this lesson, students will be able to:

- Explain the value of urban trees.
- Conduct an opinion poll.
- Communicate their findings through graphs.
- Promote urban forests.

Subject

English Language Arts, Arts, Science

Lesson/Activity Time

Total lesson time: 90 minutes

Time breakdown:

- Day 1:** Introduction – 20 minutes
Activity 1 – 20 minutes
- Day 2:** Activity 2 – 20 minutes
Conclusion – 30 minutes

Teaching Site

Classroom

Materials

For the class:

- Sunglasses
- Dollar bill
- Price tag
- Birdhouse
- Sponge
- Granola bar or other snack food
- Dust mask
- Umbrella
- Artwork
- Bag to hold the props listed above
- Chalkboard or dry erase board
- Props and dress-up clothes (optional)

For each student:

- Copy of Urban Forest Opinion Pole Student Page *
- Pencil

Preparation

For Day 1

- Assemble your bag of props
- Photocopy the Urban Forest Opinion Poll Student Page *

For Day 2

- Gather props and dress-up clothes for students to use in commercials (optional)

* Available online

www.dnr.state.wi.us/org/land/forestry/

make us feel better. In addition, trees help clean the air. Through photosynthesis, trees remove carbon dioxide and add oxygen to the air. This makes the air cleaner and healthier for us to breathe. Thus, urban trees play a critical role in creating a healthier, safer and more comfortable environment in our cities and communities.

Procedure

Day 1

Introduction

Ask your students what an urban forest is. (Students will likely say that an urban forest is comprised of the trees that grow along the streets in a city.) Expand on your students' responses until they understand that an urban forest includes all the trees, plants, and animals in and around a community of any size. Also help them understand that people, buildings, and streets are also part of the urban forest. Then get out your bag of props. Explain to your students that trees are a valuable part of the urban ecosystem and that your bag of props will help you explain why. Begin by asking one volunteer to come forward and remove one item from the bag. Using the descriptions below, discuss with your class how that item demonstrates the value of urban trees. Continue to ask different volunteers to come forward and pull something from the bag until all the items have been discussed.

- ❖ The **sunglasses** represent shade. Trees planted along the street shade the concrete and help keep the entire neighborhood cool.
- ❖ The **dollar bill** represents saving money. Trees planted to the east and west of a home can cut cooling costs by 15-35%. In addition, trees planted as a windbreak near a home can lower heating bills 10-20%.
- ❖ The **price tag** represents increased property value. Trees planted around a home can increase the home's value up to 15% or more. This means that the owners can get more money for the home if they were to sell it.
- ❖ The **birdhouse** represents homes for animals. Songbirds and other small animals make their homes in trees.
- ❖ The **sponge** represents transpiration. Trees absorb water from the soil through the roots. The water travels up to the leaves and exits the leaves as water vapor. Absorbing water from the soil helps prevent flooding.
- ❖ The **granola bar** represents food for wildlife. Trees, especially flowering trees, provide food for local animals.
- ❖ The **dust mask** represents cleaner air. Trees remove carbon dioxide and add oxygen to the air through a process called photosynthesis. This makes the air cleaner and healthier for us to breathe.

- ❖ The **umbrella** represents the prevention of soil erosion. The branches and leaves of trees break the fall of raindrops. This gives the soil time to absorb the water. Otherwise the water may run off quickly, carrying the topsoil with it.
- ❖ The **artwork** represents beauty. Trees add beauty to our surroundings. Sometimes just being able to look at trees can help us feel better.



Activity 1

Explain to your students that in order to find out how people feel about a particular issue, journalists sometimes conduct an opinion poll. An opinion poll is simply a list of several questions meant to draw out a person's opinion about a certain topic. Tell your class that they just became journalists who want to get people's opinions about the value of urban trees. Explain that in order to gather that information, they need to write an opinion poll. Give your students an example of the type of question that may appear on their poll: Do you feel that trees are important in cooling our houses? Yes, no, or undecided. Then ask your class to think of other questions that should be on the poll. As a

Vocabulary

Erosion - The process by which soil is gradually removed by wind or water.

Photosynthesis – The process in which plants use energy from the sun to change carbon dioxide and water into sugar. Oxygen is a byproduct of this process.

Transpiration – The evaporation of water from plants.

group write 5-10 questions for your poll. Have each student fill in the chosen questions on the Urban Forest Opinion Poll Student Page. As an assignment, ask each student to take the poll home and ask family and friends to respond. Remind them to record each person's responses with tally marks on the worksheet.

Day 2

Activity 2

When the class gets back together, use the chalkboard to tally up all the responses from the entire class. Then assign each of the questions to a group of two or three students. Each small group should make a bar graph that describes the results from their assigned question. The three possible responses (yes, no, or undecided) should be listed on the X-axis. The number of people who gave each response should appear on the Y-axis. The question should be written below the graph. When the graphs are complete, post them near the timeline display from the main lesson. Give everyone a chance to look closely at the graphs. Then discuss the graphs. Relate the graph results to the actual answer (if fact based) and talk about how people don't always know the values of trees in their community.

Conclusion

1. After the class reviews the results of the survey, gather the group back together. Ask your class to pretend that they have been given the chance to broadcast commercials promoting urban trees during the evening news. Then ask your class what messages are important to communicate in their commercials. (Students should respond with the values of urban trees that were discussed in the

introduction.) Ask your class to think about the results of their opinion poll. Based on the response they received, ask your class if there are one or two values that should be emphasized in their commercials. (Students should respond with values that came in weak on their poll.)

2. After you have reviewed what their commercials should contain, break your class into groups of four or five students. If you have props and dress up clothes, let your students use these while creating their commercials. Give the groups ten minutes to work.
3. When everyone is ready, call the group back together and allow each group to act out their commercial for the entire class. After each commercial, ask the rest of the class to summarize the messages communicated in the commercial.

Assessment

Summative

Ask your students to write letters to the editor urging people to plant more trees in their yards and communities. Each student should list at least three reasons why urban trees are valuable to people. (Optional: submit the letters to your local newspaper.)

References

The Wisconsin Department of Natural Resources
Division of Forestry.
www.dnr.state.wi.us/org/land/forestry/

The National Arbor Day Foundation. www.arborday.org

Other Resources

Website

The National Center for Education Statistics.
www.nces.ed.gov/nceskids/graphing/bar.asp
Learn about graphs and create your own bar graph on the computer.



Step 1

Uncover Our Forests' Past

Extension 2: Foresters Make Headlines

Nutshell

In this lesson, students become newspaper reporters and write stories about an accomplishment of a forester from the past as if it were late-breaking news. The teacher “publishes” the stories in a “newspaper” and distributes them to the class. The class then expands the timeline they created in the main lesson by adding their headlines to it.

Background Information

Wisconsin's forests have had a history filled with lows and highs. When settlers arrived in the early 1800s they found rich, healthy forests covering much of the area that would become Wisconsin. During the late 1800s and early 1900s however, much of our forest resources were used to build our state and nation. Since those times our forests have made a comeback. Once again, Wisconsin forests are rich and healthy. This time they are being managed in a sustainable way. This happy ending would not be possible without the cooperation of many individuals and organizations. In this lesson, your students will learn about several influential people who made a big difference in the status of Wisconsin's forests.

After arriving in the area in 1836, Increase A. Lapham made careful records of the pristine land that would become the state of Wisconsin. With great foresight, he urged our state to conduct a survey of our natural resources. He warned of the devastation that would result from exploiting our forests. Because of his foresight and passion for the environment, Lapham is called the founder of the conservation movement in Wisconsin.

Born in 1865, Gifford Pinchot believed that if properly managed, forests could produce the resources needed by his generation and still be maintained for tomorrow's generations. In 1898 he became the chief of the federal Division of Forestry. He started the U.S. Forest Services' Forest Products Laboratory in Madison, Wisconsin in 1910. Even today, this laboratory is the only one of its magnitude in the world.

Edward Merriam Griffith became Wisconsin's first state forester in 1904. In this position, he pursued programs to control fires, acquire land for forest reserves, protect the headwaters of streams flowing into the Mississippi and Lake Superior, and educate others about forestry. However, in 1915 legislation ruled against state forestry laws. This decision made almost all of Griffith's innovative programs illegal.

Frederick Wilson began his career in 1911 as a disciple of E.M. Griffith. During the period that Griffith was the State Forester, Wilson worked as the Forest Ranger for the Trout Lake Forestry Headquarters in Vilas County. He worked on developing the first tree nursery at Trout Lake and establishing the Star Lake

Objectives

Upon completion of this lesson, students will be able to:

- List foresters who influenced the rebuilding of Wisconsin's forests.
- Describe the issues faced by at least one forester from the past.
- Indicate that foresters have made a lasting impact on Wisconsin's forests.

Subject

English Language Arts, Arts, Social Studies

Lesson/Activity Time

Total lesson time: 70 minutes minimum

Time breakdown:

- Introduction – 20 minutes
- Activity – 30 minutes plus homework
- Conclusion – 20 minutes

Teaching Site

Classroom

Materials

For the class:

- The timeline display from the main lesson

For each student:

- Access to the Internet
- Copy of Foresters Make Headlines Student Page *
- Paper and pencil
- Markers or colored pencils

Preparation

- Photocopy the Foresters Make Headlines Student Page *
- Preview websites listed on the student page.
- Assemble your students' articles into a newspaper and make a copy for each student.

* Available online

www.dnr.state.wi.us/org/land/forestry/

Plantation until 1915 when the Wisconsin Supreme Court rendered these programs illegal. Beginning in 1922, Wilson served as the first Extension Forester at the University of Wisconsin – Madison. In this position he crusaded for the enactment of the first zoning ordinance in the U.S. restricting land use to forestry. In 1929 he drafted legislation that helped Wisconsin expand its county forests

Aldo Leopold is most well known for his book A Sand County Almanac, in which he upholds a land ethic encouraging each person to be a steward of the land. Leopold came to Wisconsin in 1924 to supervise the Forest Products Laboratory in Madison. However, much of Leopold's work focused on developing the science of wildlife management. In 1933 he became UW-Madison's first professor of game management and in 1939 he founded the first academic department of wildlife management in the country. In addition he was a conservation activist. The issues he helped Wisconsin to address include game management, land use and zoning issues.

Melvin "Mully" Taylor founded Trees for Tomorrow Education Center in Eagle River, Wisconsin in 1944 and served as its executive director for 31 years. Taylor developed a program to restore and improve forests statewide. He distributed 23 million seedlings to owners of small woodlands with help from paper and power companies. Taylor also developed a hands-on natural resources workshop to teach wise management and use of natural resources. This system served as a model for contemporary Environmental Education programs.

Procedure

Day 1

Introduction

1. Tell your students that they will be learning about several individuals who made a difference for Wisconsin's forests. Explain to your students that these individuals did not work independently. They had to communicate and cooperate with other people and organizations. In addition, each of these foresters had to overcome challenges to accomplish their goals. In order to do this they had to have a vision and a passion for seeing our forests rebuilt.
2. Tell your students that you want them to get a taste for what it is like to use communication and cooperation to overcome challenges. You also want them to have a vision and a passion for accomplishing a goal together. Get your students to help you clear a space in the center of the room. When you have opened up a space to work in, ask your students to line up on one end of the space so that the sides of their feet are touching the feet of

the people next to them. If you don't have enough space for everyone to line up, break your class into smaller groups and take turns doing the activity. Explain to your students that their feet have been magically glued together. Choose a point on the other side of the room and explain that their challenge is to get the entire group to that point. The only rule is that they must stay connected at all times. If anyone's feet come unglued, the group must go back and begin again.

3. After your class has successfully completed the challenge, lead the group in a brief discussion about the activity. Ask your group what challenges they had to overcome in order to complete the task. (Answers will vary but may include the following examples: It was challenging to communicate with people on the other end of the line. There were too many ideas and too many people wanting to be the leader. Someone didn't like my idea or said it wouldn't work.) Ask your class what types of interactions led to failure? (Answers will vary but may include: not listening to others' ideas, not believing others' ideas would work, criticizing others, etc.) Ask your students what types of interactions led to success? (Answers will vary but may include: listening to others, cooperating with others, trying out new ideas, working as a team, thinking ahead, thinking creatively, etc.) Discuss with your group how each person was responsible for their own internal attitude. Ask your students to describe attitudes that led to success. (Answers will vary but may include: a belief that we could do it, a desire to complete the task, a vision for where we were going, etc.) Tell your group to look for real-life examples of these ideas as they read and learn more about the struggles foresters have overcome in our past.



Activity

1. Tell your students that they just became newspaper reporters who will be writing a newspaper about foresters. Explain that this newspaper will be special because the reporters are time travelers (just like in the main activity). Your assignment is to write a story about a person who has changed the history of Wisconsin's forests. Each of you will research and write a story about an accomplishment of a forester or an event from the past as if it were late-breaking news.
 2. Give each student a copy of the Foresters Make Headlines Student Page. Explain the steps they will
- Wisconsin DNR-Division of Forestry* 🐾 15

take to write the story. First they need to choose one of the foresters listed and read about them on the Internet. Second, they will need to ask themselves who, what, where, when, why and how questions to come up with material for their story. Third, they will write a newspaper article about an event or accomplishment as if it were late-breaking news. Their stories should be at least three paragraphs long and include information about who, what, where, when, why, and how. If your students are unable to find answers to any of the questions, ask them to use their imaginations to come up with possible answers. You may choose to have them write their stories out with pen and paper or ask them to type them on the computer.

3. Remind your students that newspaper articles often have photographs, maps or charts to accompany them. Ask your students to create a picture, map, chart or some other visual aid to go with their story. Give your students time to work in class or assign the project as homework.

Conclusion

1. When every student has turned in a newspaper article, “publish” the stories in a “newspaper” and distribute them to the class. This can be as simple as photocopying the stories as they were turned in, or you may choose to lay them out newspaper style on the computer. Give your students time to read the stories of their classmates.
2. Use who, what, where, when, why, and how questions to lead your class in a discussion about each of the foresters. Questions will vary depending on what aspects of the foresters’ lives the students chose to address in their stories. Examples of possible discussion questions include: Who was Frederick Wilson a disciple of? (E.M. Griffith) What happened that prevented E.M. Griffith from following through with his innovative ideas? (The Wisconsin Supreme Court ruled against state forestry laws.) Where is Trees for Tomorrow located? (Eagle River, Wisconsin) When did Gifford Pinchot become the first Chief Forester of the U.S. Forest Service? (In 1898) Why did Increase Lapham make records of the natural resources in Wisconsin in the mid-1800s? (He surveyed the natural resources because he saw how valuable they were and wanted to protect them.) How did Aldo Leopold tell others about his land ethic? (He told others by writing a book called A Sand County Almanac.)
3. Ask each student to write out his or her headline in large letters on a separate piece of paper. Also ask them to take note of the year in which the event they

wrote about took place. Tell the class that they are going to add their headlines to the timeline they

created in the main lesson. Give your students time to add their stories’ headlines to the bulletin board.

Assessment

Summative

Many of the programs and organizations started by the foresters studied in this lesson still exist today. Even those that don’t exist have benefits that still exist today. Ask your students to write “What became of ...” at the top of a piece of paper. Each student should choose one of the following options to fill in the blank: Forest Products Laboratory in Madison, Trees for Tomorrow in Eagle River, Trout Lake Nursery in Vilas County or Star Lake Plantation in Vilas County. Using the Internet, each student should compile a list of things that their organization is still doing, or a list of ways Wisconsin still benefits from its existence.



References

Wisconsin Forestry Hall of Fame, College of Natural Resources, University of Wisconsin—Stevens Point.

Wisconsin Conservation Hall of Fame.
www.wchf.org/wchfinductees.htm

Pennsylvania’s Environmental Heritage.
www.dep.state.pa.us/dep/PA_Env-Her/pinchot_bio.htm

Woodworking Hall of Fame.
www.woodmagazine.com/hallfame/pinchot.htm

Ohio State Conservation.
www.1912.history.ohio-state.edu/conservation/gifford_pinchot.htm

Wisconsin Model Academic Standards

The lessons in this activity guide address Wisconsin Model Academic Standards in Environmental Education, English Language Arts, Science, and Social Studies. On the following pages, you will find the standards listed by lesson along with an explanation of how they are addressed in each lesson.

Main Lesson: I Saw It on the 6 O'Clock News

Environmental Education B.8.10

Knowledge of Environmental Processes and Systems
Students draw pictures to explain how humans have shaped Wisconsin's environment over the course of history.

The standard is: Explain and cite examples of how humans shape the environment.

Environmental Education B.8.15

Knowledge of Environmental Processes and Systems
Students analyze how people impact their environment by drawing a graph of past resource use in Wisconsin.

The standard is: Analyze how people impact their environment through resource use.

Environmental Education B.8.24

Knowledge of Environmental Processes and Systems
Students create a timeline of Wisconsin history in forestry after listening to a mock newscast about the decline and regrowth of our forests.

The standard is: Create a timeline of Wisconsin history in resource management.

English Language Arts C.8.2

Oral Language

Students listen to a mock live newscast, pick out the important information from each news segment, and record the information on a worksheet.

The standard is: Listen to and comprehend oral communications.



Extension 1: Urban Trees on TV

Environmental Education B.8.8

Knowledge of Environmental Processes and Systems
Students explain how urban trees interact with humans and urban wildlife.

The standard is: Explain interactions among organisms or populations of organisms.

Environmental Education C.8.3

Environmental Issue Investigation Skills

Students gather information through an opinion poll and use critical-thinking strategies to analyze how people feel about urban forests.

The standard is: Use questioning and analysis skills to determine beliefs, attitudes, and values held by people involved in an environmental issue.

English Language Arts B.8.1

Writing

Students write a letter to the editor and use reliable evidence to persuade people to plant more trees.

The standard is: Create or produce writing to communicate with different audiences for a variety of purposes.

English Language Arts C.8.1

Oral Language

Small groups of students create and present commercials promoting the benefits of urban forests.

The standard is: Orally communicate information, opinions, and ideas effectively to different audiences for a variety of purposes.

English Language Arts C.8.2

Oral Language

Students listen to commercials presented by classmates and summarize the main ideas presented.

The standard is: Listen to and comprehend oral communications.

Extension 2: Foresters Make Headlines

Environmental Education A.8.4

Questioning and Analysis

Students gather information about foresters from the past and use critical-thinking strategies to interpret obstacles they faced in their work.

The standard is: Use critical-thinking strategies to interpret and analyze gathered information.

Environmental Education B.8.24

Knowledge of Environmental Processes and Systems

Students learn about key players in the history of forestry in Wisconsin and add their accomplishments to a timeline.

The standard is: Create a timeline of Wisconsin history in resource management.

English Language Arts A.8.1

Reading/Literature

Students read biographical information from the Internet to find, summarize and paraphrase information about foresters throughout Wisconsin's history.

The standard is: Use effective reading strategies to achieve their purposes in reading.

English Language Arts B.8.1

Writing

Students write a newspaper article to communicate to their classmates about a forester from Wisconsin's history.

The standard is: Create or produce writing to communicate with different audiences for a variety of purposes.

Science E.8.6

Earth and Space Science

By studying historical foresters in Wisconsin, students investigate how humans have used resources over the past 100 years. Then they describe how these changes are the basis for efforts to conserve forests.

The standard is: Describe through investigations the use of the earth's resources by humans in both the past and current cultures, particularly how changes in the resources used for the past 100 years are the basis for efforts to conserve and recycle renewable and nonrenewable resources.

Social Studies B.8.1

History

Students write an interpretive article about the past using biographical information from the Internet.

The standard is: Interpret the past using a variety of sources, such as biographies, diaries, journals, artifacts, eyewitness interviews, and other primary source materials, and evaluate the credibility of sources used.



Step 2

Create a Poster

Rebuilding Our Forests: One Hundred Years of Forestry in Wisconsin

Nutshell

In this lesson, students become “news photographers.” Their job is to create a snapshot that depicts an aspect of the history of Wisconsin’s forests.

Procedure

1. Tell your students that they have just become news photographers. Their job is to create a snapshot that depicts an aspect of the history of Wisconsin’s forests. Schools in each county will be assigned a different time period to draw. Please refer to the enclosed cover letter for information about the time period students in your county should draw.
2. Use the checklist on page 20 to explain the guidelines that your students must follow in order to be eligible for the contest. Then give your students time to work.
3. Select judges for the classroom and the school contest. Consider asking garden club members, nursery personnel, arborists, the city forester, teachers, or other individuals who are interested in Wisconsin Forestry. Judges should use the checklist on page 20 for their judging criteria.
4. Fill out the form on page 21 for the school winner and send the poster and the form to the Poster Contest State Coordinator. Make certain that your school winner meets the deadline as stated in the enclosed cover letter.

Acknowledgments

This lesson adapted and reproduced with permission from the National Arbor Day Foundation.

Objectives

Upon completion of this lesson, students will be able to:

- Recall what Wisconsin looked like during a particular part of its history.
- Communicate visually events that have happened in the past.

Subject

Arts

Lesson/Activity Time

Total lesson time: 50 minutes minimum

Teaching Site

Classroom

Materials

For each student:

- Paper no smaller than 8 ½ X 11” and no larger than 14 X 18”
- Markers, crayons, colored pencils, watercolor, ink, acrylic, or tempera paint

2004 Arbor Day
Poster Contest State
Coordinator



Dick Rideout
608-267-0843
State Urban Forestry
Coordinator
PO Box 7921
Madison, WI 53707



Step 2

Create a Poster

Checklist

This checklist will help you be sure that all entries are eligible for judging.

- ☐ 1. All entries must be created by a student who is currently in the fifth grade.
- ☐ 2. All entries must be signed in the lower right-hand corner on the front of the poster with the student's first and last name.
- ☐ 3.
 - ❖ Entries may be done in marker, crayon, watercolor, ink, acrylic, colored pencil, or tempera paint.
 - ❖ Collages are not acceptable.
 - ❖ Computer generated art or computer generated printing is not acceptable.
- ☐ 4. Entries must be no smaller than 8 ½ X 11" and no larger than 14X18".
- ☐ 5. Entries must be done on paper that will allow for duplication, display, and framing.
- ☐ 6. The poster must be complete.
- ☐ 7. The poster must be related to the contest theme in some way. The theme **Rebuilding Our Forests: One Hundred Years of Forestry in Wisconsin** must be on the poster. All words must be spelled correctly.
- ☐ 8. The poster must depict the period of history that was assigned to the student's county. See enclosed cover letter for more information. The dates of the period depicted should be written clearly on the back of the poster.
- ☐ 9. Entries must be mailed flat, and should not be matted, mounted, laminated, framed or folded.

Step 2

Create a Poster

School Winner Report

After selecting a school winner, copy and complete this form and send with the poster to:

2004 Arbor Day Poster Contest State Coordinator:

Dick Rideout

State Urban Forestry Coordinator

PO Box 7921

Madison, WI 53707

2004 School Winner Report Form

Send this form with the winning school poster to the Poster Contest State Coordinator.
All information should be complete to expedite contact of winners.

Winner's Name _____

Winner's Home Address _____

City _____ State _____ ZIP _____

Winner's Home Phone (_____) _____

Winner's Parent or Guardian Name _____

Winner's Teacher's Name _____

Teacher's E-mail Address _____

School Name _____

School Address _____

City _____ State _____ ZIP _____

School Phone (_____) _____

Important:

Please indicate the number of posters entered or drawn in the school contest in the box to the left.

Number of teachers in school who participated.

All artwork becomes the property of contest sponsors and may not be returned.

Step 3

Celebrate Arbor Day

Making History

Nutshell

In this lesson, students plan and participate in an Arbor Day celebration and learn how to correctly choose and plant a tree.

Background Information

In Wisconsin Arbor Day is celebrated on the last Friday in April. A celebration can be as simple as one class planting a tree in honor of the school poster contest winner, or an elaborate community event. Before you talk to your students, decide whom you will involve in the celebration. Will you involve just the class? Will you invite the school to celebrate with you? How about the neighborhood? Parents? Others from the community? Maybe your class can plan a community celebration. Consider time, educational benefit, and resources before you make your decision.

After the scope of the celebration is determined, consider opportunities to discuss our state's forestry centennial, stewardship, tree planting, conservation, preservation, and environmental issues within the context of your curriculum and your community's needs. Identify these opportunities and reflect on how to implement them. Make a list of needed resources and begin to request or gather them. Alter your lesson plans to reflect the changes.

Procedure

Introduction

1. Now talk to your class. Discuss what they want to know, what they want to do, how they want to handle the celebration, and who they want to include. Remind your class that this year is the centennial of forestry in Wisconsin. Encourage them to think of ways to emphasize this in their celebration. Make a list of their suggestions. If the suggestions are practical, assign students the task of identifying information needed before a decision can be made about an activity. For example, if one of the suggestions was "to plant a tree in a public park," here are some questions that must be answered before plans are made: How do you get permission to plant a tree in a public place? Who chooses the exact spot? What tree is the best to plant there? How much does the tree cost? Who is available to dig the hole and plant the tree? Who will take care of it once it's planted? How will the class get to the park? What happens if it rains on tree planting day? By identifying related questions, students are actually making a task list and thinking critically about each activity.
2. When the questions are identified, consider the practicality of implementing the suggestion. Is it possible? Can the students do most of it? How will they benefit from the experience? Eliminate any suggestions that you don't feel are appropriate.

Objectives

Upon completion of this lesson, students will be able to:

- Discuss the meaning of Arbor Day.
- Describe how to correctly choose and plant a tree.
- Explain that the tree they plant may live longer than them.

Subject

Science, Social Studies

Lesson/Activity Time

Total lesson time: Varies with scope of celebration chosen.

Time breakdown:

- Introduction – 30 minutes
- Activity – 30 minutes minimum
- Celebration – 60 minutes to one day

Teaching Site

Classroom

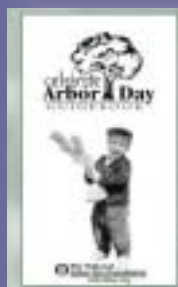
Materials

For the class:

- Tree
- Bucket of water
- Shovel
- Additional materials may be needed depending on the scope of the celebration

Preparation

- Determine the scope of the celebration you wish your students to plan.
- Decide whom you will involve in the celebration.
- Make a list of needed resources.
- Begin gathering materials specific to the scope of your celebration.



Other Resources

Website

National Arbor Day Foundation.
arborday.org

Request a free Celebrate Arbor Day Guidebook for more great ideas on celebrating Arbor Day.

Activity

1. You now have a list of activities that the students want to do and that you feel are possible. With a little alteration, this list can become a committee list and students can volunteer to find the answers to the questions they identified and plan their chosen activity. Invite parents to serve on the committees and extend an invitation to members of other community groups.
2. Oversee the committee meetings. Make sure the class stays on task, but allow the students to do the planning and implementing.
3. Visit area businesses and ask for contributions for the purchase of the tree(s). Take students to Rotary and Garden Club meetings to discuss the project and request expertise or financial help. Don't underestimate the impact a school project can have on the community!

Assessment

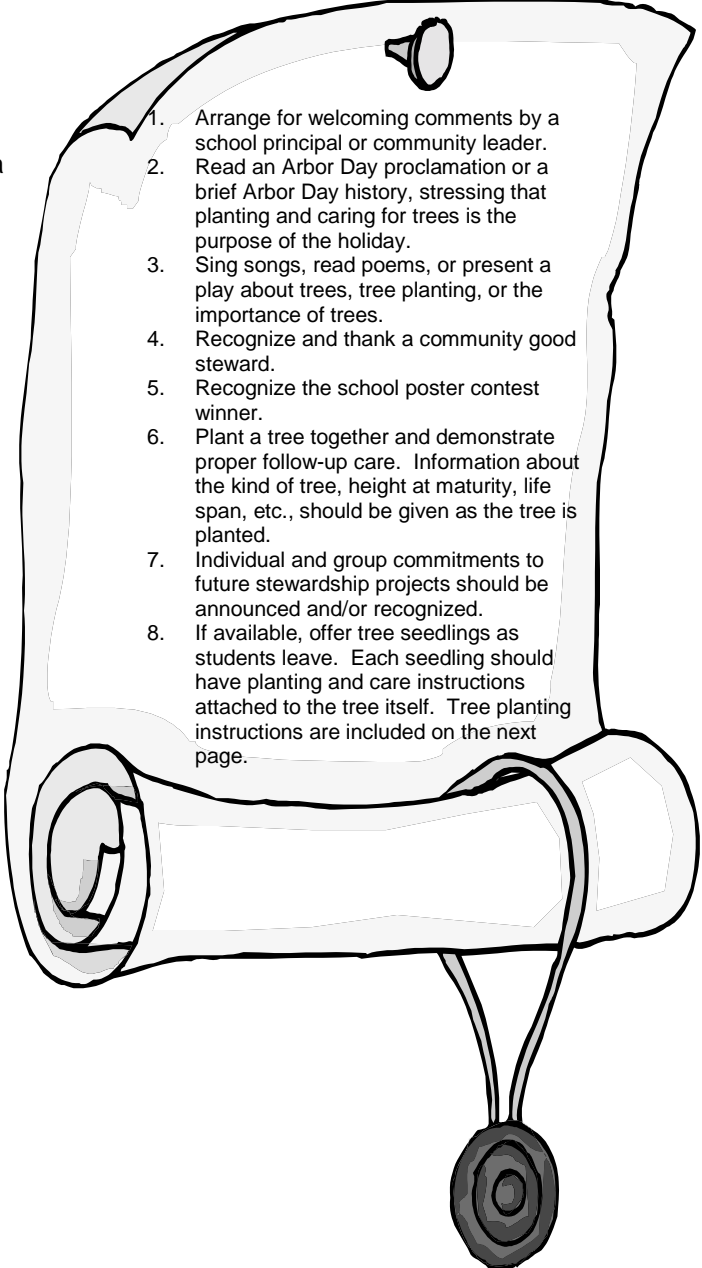
Summative

Ask your students to write in a journal about their experience planning and celebrating Arbor Day. Each student should write at least three paragraphs and include the following information: What did they learn while planning the Arbor Day celebration? What was their favorite part of the celebration and why? How would they like to change the celebration plan for next year?

Acknowledgments

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Sample Program for a basic Arbor Day Ceremony

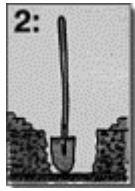
- 
1. Arrange for welcoming comments by a school principal or community leader.
 2. Read an Arbor Day proclamation or a brief Arbor Day history, stressing that planting and caring for trees is the purpose of the holiday.
 3. Sing songs, read poems, or present a play about trees, tree planting, or the importance of trees.
 4. Recognize and thank a community good steward.
 5. Recognize the school poster contest winner.
 6. Plant a tree together and demonstrate proper follow-up care. Information about the kind of tree, height at maturity, life span, etc., should be given as the tree is planted.
 7. Individual and group commitments to future stewardship projects should be announced and/or recognized.
 8. If available, offer tree seedlings as students leave. Each seedling should have planting and care instructions attached to the tree itself. Tree planting instructions are included on the next page.



How To Plant A Bare-Root Tree



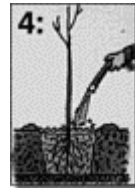
1: Unpack tree and soak in water 3 to 6 hours. Do not plant with packing materials attached to roots, and do not allow roots to dry out.



2: Dig a hole, wider than seems necessary, so the roots can spread without crowding. Remove any grass within a three-foot circular area. To aid root growth, turn soil in an area up to 3 feet in diameter.



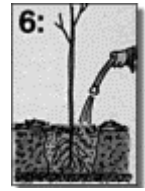
3: Plant the tree at the same depth it stood in the nursery, without crowding the roots. Partially fill the hole, firming the soil around the lower roots. Do not add soil amendments.



4: Shovel in the remaining soil. It should be firmly but not tightly packed with your heel. Construct a water-holding basin around the tree. Give the tree plenty of water.



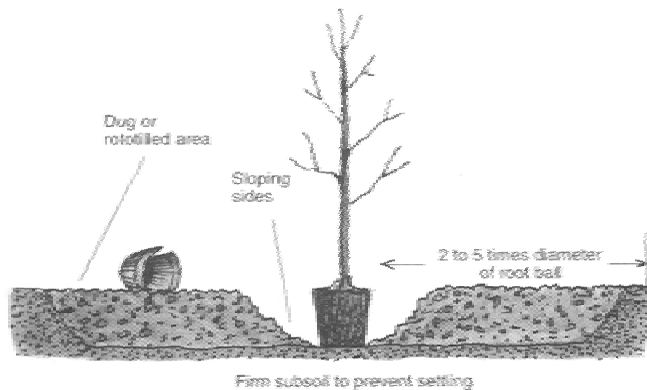
5: After the water has soaked in, place a 2-inch deep protective mulch in an area 3 feet in diameter around the base of the tree (but not touching the trunk.)



6: During dry weather, water the tree generously every week or 10 days during the first year.

How To Plant A Containerized Tree

If a tree is planted correctly, it will grow twice as fast and live at least twice as long as one that is incorrectly planted. Ideally, dig or rototill an area one foot deep and approximately 5 times the diameter of the root ball. The prepared soil will encourage root growth beyond the root ball and results in a healthier tree.



In transplanting, be sure to keep soil around the roots. Always handle your tree by the ball, not by the trunk or branches. Don't let the root ball dry out. Help prevent root girdling by vertically cutting any roots that show tendencies to circle the root ball. After placing the tree, pack soil firmly but not tightly around the root ball. Water the soil and place a protective 3-foot circle of mulch around the tree but not touching the trunk.

Acknowledgments

This information reproduced with permission from the National Arbor Day Foundation.

Wisconsin celebrates Arbor Day on
the last Friday in April.



Our state tree is the Sugar Maple.

What is LEAF?



LEAF Background

LEAF, the Wisconsin K-12 Forestry Education Program, was created to help promote forestry education in Wisconsin. In 2001, Wisconsin K-12 forestry education stakeholders met to discuss the current status of and the needs for Wisconsin-based K-12 forestry education. Although a variety of programs existed, voids were identified in delivery and dissemination of educational materials and services. To present a more unified effort, stakeholders supported the development of a comprehensive program that would cooperate with existing efforts.

During the spring of 2001, legislation was written to establish the LEAF Program as a partnership between the Wisconsin Department of Natural Resources-Division of Forestry and the Wisconsin Center for Environmental Education at the College of Natural Resources at the University of Wisconsin-Stevens Point. Funding for the program is provided through a surcharge on the sale of seedlings from Wisconsin Department of Natural Resources-Division of Forestry nurseries.

LEAF Goals

- ❖ To develop a "Wisconsinized" Forestry Education Activity Guide for use in the classroom and field.
- ❖ To build partnerships with other Wisconsin K-12 Forestry Education Stakeholders and support their efforts.
- ❖ To provide teacher training opportunities in forestry education, including college credit courses and workshops.
- ❖ To assist schools with the infusion of standards based forestry education concepts into their curriculum.
- ❖ To assist school forests with site management and education plan development, networking, and training programs.

Getting the Guide

Classroom Teachers: The primary audience for the LEAF Activity Guide is classroom teachers. Initial dissemination will be through a graduate level college course. Teachers will receive background on forestry topics, forestry resources, and participate in sample activities. Courses will be offered throughout the state of Wisconsin. Cost of the course will be covered by the LEAF Program. These courses are projected to begin early in 2004.

Nature Centers: Field lessons from the guide will be of interest to nature centers and other non-formal education facilities. A training workshop will be provided for those who wish to teach the field lessons only.

Landowners, etc.: Other parties interested in LEAF Forestry Education materials will have opportunities to attend trainings and workshops. Our goal is to assist you in providing quality forestry education and information to others.

***For more information about courses in your area, check out our website:
www.uwsp.edu/cnr/leaf***

Contact us:

LEAF
Wisconsin Center for
Environmental Education
College of Natural Resources
UW-Stevens Point
Stevens Point, WI 54481
Phone: 715/346-4956
Fax: 715/346-3025
Email: leaf@uwsp.edu

LEAF Activity Guide

is a unit-based forestry education curriculum for use in the classroom and field.

The chart below gives an overview of the 5th & 6th grade unit.

<i>Lesson 1</i> Me as a Tree	Nutshell In this lesson, students learn how trees and humans are similar. Students use comparisons between humans and trees to understand a tree's functions, basic needs, life stages, and role in the forest community. As a culminating activity, students play tree trivia.	Objectives <i>Upon completion of the lesson students will be able to:</i> <ul style="list-style-type: none"> • Draw and explain the parts of a tree and their functions. • Compile a list of basic needs of a tree. • Explain how trees compete for their basic needs. • Illustrate and explain the life stages of a tree. • Differentiate functions of a tree in a forest community.
<i>Lesson 2</i> What Makes a Forest?	Nutshell In this lesson, students learn what an ecosystem is and what makes up a forest ecosystem through an interactive game. They learn about forest layers by acting out and discussing each layer.	Objectives <i>Upon completion of this lesson students will be able to:</i> <ul style="list-style-type: none"> • Define ecosystem. • Identify forests as ecosystems with trees as the dominant plant. • Identify the structural layers within a forest.
<i>Lesson 3</i> Forests Are Always Changing	Nutshell In this lesson, students play a game and act out forest succession and disturbances. Then, they fill out a worksheet to learn about renewability.	Objectives <i>Upon completion of this lesson students will be able to:</i> <ul style="list-style-type: none"> • Describe how forest ecosystems are constantly changing through succession. • Explain how disturbances contribute to succession. • Define renewable resources and relate how forests are renewable resources.
<i>Lesson 4</i> Ecosystem Extravaganza	Nutshell In this lesson, students play a game to identify producers, consumers, and decomposers and learn how they are connected in ecosystems. They learn about photosynthesis and energy flow. Students read to learn about the cycling of matter and label pictures to create their own diagrams of the processes.	Objectives Upon completion of this lesson students will be able to: <ul style="list-style-type: none"> • Identify types of organisms in an ecosystem. • Summarize the major functions of an ecosystem including: <ul style="list-style-type: none"> ◦ Photosynthesis ◦ Energy flow through food chains and webs ◦ Cycling of matter
<i>Lesson 5</i> We All Need Trees	Nutshell In this lesson, students learn the benefits of trees, their value, and their impact on the environment by a playing a game and writing and producing a radio or television commercial promoting the value of trees.	Objectives <i>Upon completion of this lesson students will be able to:</i> <ul style="list-style-type: none"> • Explain reasons humans value forests. • Describe how forests support a clean and healthy environment. • Discuss ways forests are economically valuable. • List forest products and services they use every day.
<i>Lesson 6</i> Who Owns It?	Nutshell In this lesson, students study a plat map and answer questions about who owns land and how much they own. Students then observe how the management goals of landowners impact the forest ecosystems. Finally, they play a game to identify the roles different groups have in management decisions.	Objectives <i>Upon completion of this lesson students will be able to:</i> <ul style="list-style-type: none"> • Indicate that forests are both publicly and privately owned and can vary in size. • Explain how having multiple owners of the same forest can affect that forest ecosystem. • Investigate the roles of government agencies, private businesses, organizations, communities, and individuals in forest management.



<i>Lesson 7</i> What Is Management?	Nutshell In this lesson, students learn what has happened in Wisconsin's history that led us to modern forestry. They will learn to recognize management techniques and will read a story where they choose the management technique used and find out what can happen if they don't make a wise decision.	Objectives <i>Upon completion of this lesson students will be able to:</i> <ul style="list-style-type: none"> • Discuss the impact that early logging had on the need for forest management. • Identify ways that people promote, conserve, or alter forests to meet their needs. • Examine the ways that management can lead to changes in the forest. • Relate the role that management will need to play as the population continues to grow.
<i>Lesson 8</i> Whose Job Is It?	Nutshell In this lesson, students learn about stewardship and how their choices affect the future of forests by participating in a mock town meeting. They write down questions they would like to have answered and then make a decision on what they would have done.	Objectives <i>Upon completion of this lesson students will be able to:</i> <ul style="list-style-type: none"> • Explain that citizens have a responsibility to be stewards of the environment. • Explain that decisions citizens make can be individual or as a group. • Describe how choices people make affect the future of forests.
<i>Careers Lesson</i>	Nutshell In this lesson, students will become aware of 7 careers that are forestry related by listening to descriptions of them and playing charades.	Objectives <i>Upon completion of this lesson students will be able to:</i> <ul style="list-style-type: none"> • Name several careers that are forestry related and what they deal with.
<i>Field Enhancement 1</i>	Nutshell In this lesson, students make their own tree scale stick and use it to calculate the number of products that can be made from individual trees. Afterwards, students go on a scavenger hunt to explore many ways that forests are valuable.	Objectives <i>Upon completion of this lesson students will be able to:</i> <ul style="list-style-type: none"> • Calculate the number of board feet in a tree. • Identify social, economic, and environmental values of trees.
<i>Field Enhancement 2</i>	Nutshell In this lesson, students observe the structural layers of a forest and draw a color-coded picture. They also embark on two exploration activities to discover which animals can be found in each of the forest layers.	Objectives <i>Upon completion of this lesson students will be able to:</i> <ul style="list-style-type: none"> • Identify the five structural layers in a forest. • Explain what kind of wildlife can be found in each of the layers of a forest.
<i>Field Enhancement 3</i>	Nutshell In this lesson, students compete for their basic needs in an active game. Afterwards, they observe how trees compete for their basic needs.	Objectives <i>Upon completion of this lesson students will be able to:</i> <ul style="list-style-type: none"> • Compile a list of basic needs of a tree. • Explain the parts of a tree and their function. • Explain how trees compete for their basic needs. • List factors that contribute to competition.

Sample Press Release for School
Winner Announcement

Complete this press release and send it to the school newspaper, PTA newsletter, or the local newspaper.

**(School name) 5th Grader to
Compete in Arbor Day Poster
Contest at State Level**

(Winner's name), fifth grader at (school), in (teacher's name's) class won the first round of the 2004 Arbor Day Poster Contest. (His/Her) poster was selected to represent (school) at the state level.

The theme of the poster contest is **Rebuilding Our Forests: One Hundred Years of Forestry in Wisconsin**. (Winner's first name) poster depicted (explanation of art). The explanation given by (student's name) for the artwork included: (quote from student about the picture.)

In (city), the 2004 Arbor Day Poster Contest is sponsored by Wisconsin DNR-Division of Forestry along with Wisconsin Nursery Association, Wisconsin Arborist Association and the US Forest Service.

